# Product Information

## DAPI

Catalog Number: D4054, D4080

Product Size**:** 10mg (D4054), 10mL (D4080)

Application Scope: Cell tracing, tracking, cellular imaging

## Parameters

Appearance: Yellow solid (D4054)

Ex/Em (with DNA ): 360/460 nm

CAS No.: 28718-90-3

Molecular Formula: $C_{16}H_{17}Cl_2N_5$

Molecular Weight: 350.25

Molecular Structure:

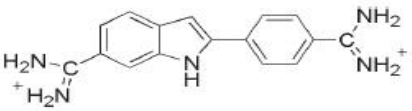

Figure 1. DAPI (4',6-Diamidino-2-Phenylindole).

## Storage

Store at -20°C and protect from light. When stored as directed, product is stable for at least 12 months.

## Description

DAPI is a blue DNA dye that is widely used as a nuclear counterstain for fluorescence microscopy, chromosome staining, and flow cytometry. The dye binds to the minor groove of dsDNA with approximately 20-fold fluorescence enhancement. DAPI has a high level of photobleaching tolerance and can be used to detect yeast mitochondrial DNA, chloroplast DNA, viral DNA, microplasm DNA, and chromosomal DNA.

At lower concentrations (~1 ug/mL), DAPI is impermeant to live cells, but useful as a nuclear counterstain in fixed cells or tissue sections. At higher concentrations (~10 ug/mL), DAPI can be used to stain live cells.

## Protocol

For D4080 ready-to-use dyes, you can directly perform the third staining step

1. Stock solution: The solid dye may be dissolved in water to make concentrated stock solutions up to 1 mg/mL.

Note: DAPI cannot be directly dissolved in a buffer solution such as PBS, it needs to be dissolved in water first.

2. Preparation of working solution: Dilute the storage solution with PBS to prepare a working solution with a concentration of 5 μg/mL.

3. Remove medium from the cells and add an appropriate amount of DAPI working solution.

4. Incubate cells at room temperature or 37°C for 10-20 minutes.

5. Remove DAPI working solution and wash with PBS or saline for 2-3 times, each time for 3-5 minutes.

Note: The cleaning step is optional but not necessary. It does not affect the staining after cleaning.

6. Image the samples.

## Notes

1. DAPI dye is more sensitive to staining mammalian cells than staining bacteria. It is recommended to stain with a final concentration of 10 μg / mL in PBS or 150 mM NaCl for 30 min at room temperature to stain bacteria. Dead cells are



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usually stained more brightly than live cells.

2. For nuclear staining, the recommended working concentration of DAPI is 0.5-10 μg / mL.

3. If you need to adjust the use concentration, please choose D4054-10 mg.

4. There are quenching problems with fluorescent dyes. Please avoid light to slow down the fluorescence quenching.

5. For your safety and health, please wear lab coats and disposable gloves.



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